

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-57 are pending in the application, with claims 1, 14, 33, 35, 40, 50, 51, and 52 being independent. Applicant amends claims 1, 33, and 43 to further clarify features of the claimed subject matter. The original specification and drawings support these claim amendments at least at page 10, lines 18-22; page 13, lines 12-21; page 16, line 4; page 24, lines 21-23; and page 34, lines 11-14; and in Figs. 1, 2, and 5. These revisions introduce no new matter.

Claim Rejections 35 U.S.C. §102

A. Claims 33-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Kliger et al. (U.S. Pat. Publication 2004/0177381) (“Kliger”). Applicant respectfully traverses the rejection.

Without conceding the propriety of the stated rejections, and only to advance the prosecution of this application, Applicant amends **independent claim 33**, to clarify further features of the subject matter. Amended claim 33 now recites an electronic *notching* filter comprising:

an incoming filter to produce a band of blocked frequencies in an incoming stream of multimedia signals, wherein the incoming filter blocks signals having one of the blocked frequencies from entering a media network from a multimedia headend; and

an outgoing filter to block signals that originate in the media network and prevent one of the blocked frequencies from leaving the media network, wherein the range of blocked frequencies is from at least about *5 megahertz to at most about 42 megahertz*.

Applicant respectfully submits that no such electronic notching filter is disclosed by Kliger.

Kliger describes a “low pass filter 48” (paragraph 0025). Fig. 4 of Kliger shows item 48 as “LPF 5-860 MHz.” Even assuming for the sake of argument that the low pass filter of Kliger may properly be interpreted as a notching filter, Kliger fails to disclose “*an electronic notching filter . . . wherein the range of blocked frequencies is from about 5 megahertz to about 42 megahertz,*” as recited in amended claim 33. Thus, Kliger fails to disclose at least the features recited in Applicant’s claim 33. Consequently, Applicant respectfully submits that independent claim 33 is not anticipated by Kliger and request that the §102 rejection be withdrawn.

Dependent claim 34 depends from independent claim 33, and thus is allowable as depending from an allowable base claim. This claim is also allowable for its own recited features. Thus, Applicant respectfully submits that as each and every feature is not disclosed, the claims are not anticipated by Kliger. Applicant respectfully requests that the §102 rejection be withdrawn.

B. Claims 40-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Akins et al (U.S. Pat. Application Publication 2004/0177369) (“Akins”). Applicant respectfully traverses the rejection.

Claim 40 recites a content protection system, comprising:

a content protector to *create multiple scrambled program streams from a single program stream according to a key*, and
a content decrypter to receive the multiple scrambled program streams and the key and *decode the multiple scrambled program streams into a single program stream according to the key*.

Applicant respectfully submits that no such content protection system is disclosed by Akins.

Akins fails to disclose creation of multiple scrambled program streams from a single program stream

Akins discusses “providing conditional access to recorded service instances” (paragraph 0001). “Secure communication ... is preferably accomplished using pairs of asymmetrical keys ... (RSA) public key encryption technology” (Akins, paragraph 0034). More specifically, Akins discuss a digital service that is “encrypted using encryption keys that are changed multiple times per minute” (paragraph 0052) and combining various inputs into the headend with other information “such as local programming and control information.” (paragraph 0065). Akins also mentions that “the authentication token of an EMM [entitlement management message] is generally a one-way hash digest of the message content that has been digitally signed by the private key of the CAA [conditional access authority]” (paragraph 0069).

Applicant’s claim 40 recites, in part, “*create multiple scrambled program streams from a single program stream according to a key.*” In contrast, Applicant’s single program stream is split into many scrambled program streams in such a way that the original single program stream can be reconstructed using a key, not encryption methods such as RSA public key, changing keys multiple times per minute, or authentication tokens. Applicant’s Fig. 13 and Fig. 14 illustrate of one embodiment of this concept. Thus, Akins fails to disclose at least the features recited in Applicant’s claim 40. Consequently, Applicant respectfully submits that independent claim 40 is not anticipated by Akins and request that the §102 rejection be withdrawn.

Dependent claims 41-49 depend from independent claim 40, and thus are allowable as depending from an allowable base claim. Each claim is also allowable for its own recited features, that in combination with those recited in claim 40 are not disclosed by Akins. For example, amended claim 43 recites in part “wherein the key is a binary number provided to a

set-top box from a hub.” Akins fails to disclose a binary-number key. Thus, Applicant respectfully submits that as each and every feature is not disclosed, the claims are not anticipated by Akins. Applicant respectfully requests that the §102 rejection be withdrawn.

Claim Rejections under 35 U.S.C. § 103 A., B., C., D., E., and F.

A. Claims 1-9, 14-29, and 52-56 are rejected under 35 U.S.C. 102(e) as being anticipated by Gray et al. (U.S. Pat. Application Publication 2004/0268401) (“Gray”), in view of Kliger. Applicant respectfully traverses the rejection.

Without conceding the propriety of the stated rejections, and only to advance the prosecution of this application, Applicant amends **independent claim 1**, to clarify further features of the subject matter. Amended claim 1 now recites a method of creating a two-way communication from two unidirectional data channels, comprising:

communicatively coupling a set-top box with a hub of a media network, wherein the set-top box receives a streaming Moving Picture Experts Group (MPEG) video modulated on a coaxial cable rather than over an Internet protocol-based local area network;

filtering signals received by the media network from a multimedia headend to provide one or more available frequencies for communication between the set-top box and the hub;

filtering signals transmitted from the media network to the multimedia headend to prevent media network signals of the one or more available frequencies for communication from leaving the media network;

tuning the set-top box to the one or more available frequencies for communication to send ALOHA data to the hub on an out-of-band channel through a Quadrature Phase Shift Keying (QPSK) demodulator; and

tuning the set-top box to a frequency other than the one or more available frequencies for communication between the set-top box and the hub to receive the signals from the multimedia headend on the out-of-band channel; and

tuning the set-top box to receive Quadrature Amplitude Modulation (QAM) modulated MPEG data and a multimedia content from the hub on an in-band channel;
wherein the filtering is performed by a notching filter;
wherein the hub is a personal computer.

Applicant respectfully submits that no such method is disclosed, taught, or suggested by Kliger or Gray.

Gray discusses a “Pedestal 504 [that] receives transmissions from FTTC network 503 and may re-transmit them via a coaxial cable 505 to STB/Gateway 308 located at the user premises 306” (paragraph 0065). Gray does not disclose “*wherein the hub is a personal computer*”, as recited in Applicant’s amended claim 1. Kliger fails to compensate for this deficiency in Gray.

Gray and Kliger, individually and in combination (assuming for the sake of argument they can be combined) do not disclose, teach, or suggest “*tuning the set-top box to the one or more available frequencies to send ALOHA data to the hub on an out-of-band channel through a quadrature phase shift keying (QPSK) demodulator,*” as recited in Applicant’s amended claim 1. Gray and Kliger also fail to disclose that the same available frequencies used for the ALOHA data communication come from “*filtering signals received by the media network from a multimedia headend to provide one or more available frequencies for communication between the set-top box and the hub,*” as recited in Applicant’s amended claim 1.

As agreed during the interview, Applicant’s amended claim 1 is allowable over the references of record for at least the above reasons. Consequently, Applicant respectfully submits that amended claim 1 is not disclosed, taught, or suggested by Gray or Kliger and request that the §103 rejection be withdrawn.

Independent claim 14 recites a system, comprising:

a computing hub for receiving and storing multimedia content;

a set-top box coupled with the computing hub, wherein the set-top box receives streaming Moving Picture Experts Group video modulated on coaxial cable rather than over an Internet protocol-based local area network and wherein the ***set-top box sends data to the hub on an out-of-band channel and receives data from the hub on an in-band channel.***

Applicant respectfully submits that no such system is disclosed, taught, or suggested by Kliger or Gray.

Kliger fails to disclose data transmission from the set-top box to the hub on an out-of-band channel and from the hub to the set-top box on an in-band channel

The Office acknowledges, and Applicant agrees, that “Gray fails to disclose ‘set-top box sends data to the hub on an out-of-band channel’” (Office Action, page 19). Kliger fails to compensate for this deficiency in Gray. Kliger discusses “a home content distribution solution that provides distribution capabilities between a Home Media Server (HMS) and ... an existing legacy digital set-top box (STB)” (abstract). Specifically, “[s]ignals entering or leaving the home distribution network 40 preferably fall within two bands: 5-42 MHz. for transmitting signals from the home distribution network 40 to the cable supplier head end; and 55-860 Mhz. for video signals from the cable network 10” (Kliger, paragraph 0024; emphasis added).

Accordingly, the evidence fails to illustrate “*wherein the set-top box sends data to the hub on an out-of-band channel and receives data from the hub on an in-band channel*” as recited in Applicant’s claim 14. In contrast to the evidence presented by the Office, the text of Applicant’s claim recites communication between a set-top box and a hub, not between a home distribution network and a headend. Applicant’s Fig. 1 shows the difference between a hub/set-top box connection and a home distribution network/headend connection. Thus, Gray and Kliger, alone or in combination, do not disclose, teach, or suggest at least the features recited in

Applicant's claim 14. Accordingly, Applicant submits that the evidence relied upon by the Office does not support the rejections made under §103. Applicant respectfully requests that the §103 rejection be withdrawn.

Independent claim 52 recites one or more computer readable media containing instructions that are executable by a computer to perform actions comprising:

filtering signals received by the media network to provide one or more clear frequencies for communicating between a set-top box and a hub of a media network;

tuning the set-top box to send data to the hub on an out-of-band channel; and

tuning the set-top box to receive data from the hub on an in-band channel.

Applicant respectfully submits that no such computer readable media is disclosed, taught, or suggested by Gray or Kliger.

For the reasons presented above with respect to independent claim 14, Gray and Kliger, alone or in combination, do not disclose, teach, or suggest the features recited in Applicant's claim 52. Accordingly, Applicant submits that the evidence relied upon by the Office does not support the rejections made under §103. Applicant respectfully requests that the §103 rejection be withdrawn.

Dependent claims 2-9, 15-29, and 53-56 depend directly or indirectly from independent claims 1, 14, or 52, respectively, and are allowable as depending from an allowable base claim. These dependent claims are also allowable for their own recited features that, in combination with those recited in independent claims 1, 14, or 52 are not disclosed, taught, or suggested by Gray or Kliger.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the

cited references. For all of these reasons, Applicant requests the §103 rejection of these claims be withdrawn.

B. Claims 10-13, 30-32 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray, in view of Kliger, further in view of Akiyama et al. (U.S. Pat. Publication 2002/0001386) (“Akiyama”). Applicant respectfully traverses the rejection.

The Office cited Akiyama for allegedly disclosing “data to be received by the broadcast receiver apparatus via a broadcast wave in the conditional access system of this embodiment include two different packets, a contents packet and common control packet” (Office Action, pages 30-31).

The Office has presented no evidence that Akiyama remedies the deficiencies identified in Gray and Kliger with respect to claims 1, 14, and 52. Applicant respectfully request evidence for these rejections from the Office.

Dependent claims 10-13, 30-32, and 57 depend directly or indirectly from independent claims 1, 14, or 52 respectively and are allowable by virtue of this dependency. These dependent claims are also allowable for their own recited features that, in combination with those recited in claims 1, 14, and 52, are not disclosed, taught, or suggested by Gray, Kliger, or Akiyama.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant requests the §103 rejection of these claims be withdrawn.

C. Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray, in view of Saladino et al. (U.S. Pat. Publication 2003/0014764) (“Saladino”). Applicant respectfully traverses the rejection.

Independent claim 35 recites an adapter, comprising:

a tuner to tune an out-of-band channel of a set-top box to a frequency selected for communication over a media network, wherein the media network has **a hub that** communicates over an Internet Protocol-based local area network with one or more network media nodes and **communicates over the out-of-band channel and the in-band channel with the set-top box** and one or more other set-top boxes;

a quadrature phase shift keying (QPSK) demodulator coupled with the tuner to demodulate upstream data signals from the tuner to the hub;

a quadrature amplitude modulation (QAM) modulator to receive and modulate data and multimedia content from the hub; and

an upconverter coupled with the quadrature amplitude modulation (QAM) modulator to upconvert modulated data and multimedia content signals to the set-top box.

Applicant respectfully submits that no such adapter is disclosed, taught, or suggested by Gray or Saladino.

Gray and Saladino fail to disclose, teach, or suggest a hub that communicates over an out-of-band channel with a set-top box

The Office acknowledges, and Applicant agrees, that “Gray fails to disclose ‘set-top box sends data to the hub on an out-of-band channel’” (Office Action, page 19). Saladino fails to compensate for this deficiency in Gray. Saladino discusses “[a] cable modem method, system, and computer program product are provided for payload header suppression in which a limited number of suppression indices is used to map suppression rules to data streams” (abstract). The Office cites Saladino for its discussion of a quadrature phase shift keying demodulator and quadrature amplitude modulation modulator in paragraphs 0058, 0061, and 0065 (Office Action,

page 38). The Office has presented no evidence that Saladino remedies the acknowledge deficiencies in Gray.

Applicant's claim 35 recites, in part, "a hub that ... communicates over the out-of-band channel and the in-band channel with the set-top box." Thus, the language of Applicant's claim 35, by the Office's admission, is not disclosed by Gray. Saladino fails to discuss a hub and does not disclose any communication between a hub and a set-top box. Thus, Gray and Saladino, alone or in combination, do not disclose, teach, or suggest at least the features recited in Applicant's claim 35. Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant requests the §103 rejection of these claims be withdrawn.

Dependent claims 36-37 depend from independent claim 35 and are allowable by virtue of this dependency. These dependent claims are also allowable for their own recited features that, in combination with those recited in claim 35 are not disclosed, taught, or suggested by Gray or Saladino.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant requests the §103 rejection of these claims be withdrawn.

D. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray, in view of Saladino, in further view of Naimpally et al. (U.S. Pat. Publication 2003/0106056), ("Naimpally"). Applicant respectfully traverses the rejection.

The Office cited Naimpally for allegedly teaching “a Moving Picture Experts Group (MPEG) decoder and a National Television System Committee (NTSC) video standard encoder to receive video content from the hub and a radio frequency modulator coupled with the MPEG decoder NTSC encoder to modulate video content signals for the set-top box” (Office Action, page 40). The Office has presented no evidence that Naimpally remedies the deficiencies identified in Gray and Saladino with respect to claim 35.

Dependent claim 38 depends indirectly from independent claim 35 and is allowable by virtue of this dependency. This dependent claim is also allowable for its own recited features that, in combination with those recited in claim 35 are not disclosed, taught, or suggested by Gray, Saladino, or Naimpally.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant requests the §103 rejection of this claim be withdrawn.

E. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray, in view of Saladino, further in view of Krisbergh et al. (U.S. Pat. Publication 2004/0078824) (“Krisbergh”). Applicant respectfully traverses the rejection.

The Office cited Krishbergh for allegedly teaching that the “set-top box sends data to the hub using an ALOHA protocol” (Office Action, page 42). The Office has presented no evidence that Krisbergh remedies the deficiencies identified in Gray and Saladino with respect to claim 35.

Dependent claim 39 depends from independent claim 35 and is allowable by virtue of this dependency. This dependent claim is also allowable for its own recited features that, in combination with those recited in claim 35 are not disclosed, taught, or suggested by Gray, Saladino, or Krishbergh.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant requests the §103 rejection of this claim be withdrawn.

F. Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray, in view of Thiagarajan et al. (U.S. Pat. Publication 2003/0196204) (“Thiagarajan”). Applicant respectfully traverses the rejection.

Thiagarajan is removed as a reference in accordance with §103(c) because both Thiagarajan and this application are owned by or subject to an obligation of assignment to Microsoft Corporation. As agreed during the interview, removal of the rejections based on Thiagarajan will require allowance of the claims or rejection over a new combination of references.

As for **independent claim 50**, the Office states, and Applicant agrees, that “Gray fails to disclose ‘tuning the set-top boxes to selected frequencies reserved for communication in the media network; requesting a list of programs from the hub on an out-of-band channel of a set-top box using one of the’ selected frequencies; receiving a list of programs from the hub on an in-band channel of the set- top box using one of the selected frequencies; requesting program content on the out-of-band channel of the set-top box using one of the selected frequencies; receiving a confirmation of the requesting program content on the in-band channel of the set-top box using one

of the selected frequencies; and receiving the program content on the in-band channel of the set-top box using one of the selected frequencies” (Office Action, page 43). Thus, Gray alone does not disclose, teach, or suggest Applicant’s claim 50. Accordingly, Applicant respectfully requests withdrawal of the §103 rejection of claim 50.

As for **independent claim 51**, the Office states, and Applicant agrees, that “Gray fails to disclose ‘tuning the set-top boxes to selected frequencies reserved for communication in the media network; requesting a trick mode on an out-of-band channel of a set-top box using one of the selected frequencies; receiving a confirmation of the requesting a trick mode on the in-band channel of the set-top box using one of the selected frequencies; and receiving the program content in the trick mode on the in-band channel of the set-top box using one of the selected frequencies’” (Office Action, page 45). Thus, Gray alone does not disclose, teach, or suggest Applicant’s claim 51. Accordingly, Applicant respectfully requests withdrawal of the §103 rejection of claim 51.

Conclusion

Claims 1-57 are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the subject application. If any issue remains unresolved that would prevent allowance of this case, the Office is requested to contact the undersigned attorney to resolve the issue.

Respectfully Submitted,

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